

Clean Air News

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INSIDE THIS ISSUE

NEA to Promote Use of Induction Stoves 2

Government Unveils Action Plan to Control Air Pollution 3

Dust-free Kathmandu Campaign Challenged by Road Potholes 4

Government to Establish Robust Mechanism to Monitor Air 5

Cleaner Concrete Production Could Cut Air Pollution by 14% 6

Good Reads- Corona Virus and Air Pollution Issues 6

Air Pollution in Valley Amidst Country Lockdown

By Elina Shrestha, CEN

The Nepal government announced a weeklong lockdown on 24 March, 2020 in order to control the outbreak of the global pandemic COVID-19. During this time, all commercial and private establishments are shut while only essential services are available with all commercial flights domestic and international flights are banned. People are ordered to stay at home and no private and public vehicles are allowed in the road. With these restrictions, the air pollution of Kathmandu has seen drop in pollution level.

Many international news agencies have said that the coronavirus is changing the environment for good with impacts such as temporary drop in CO² emission due to shutdown of factories and industries, improvement in air quality in countries like China, Italy and Spain, reduction in carbon monoxide mainly from cars due to reduction in vehicular traffic. Same is the case in Nepal. The air quality of Nepal according to the data from various Air quality Monitoring stations shows improvement.

Despite no vehicular traffic for almost a fortnight, due to the on-going lockdown, the air quality index of Kathmandu has not shown significant drop. The reason for only nominal air quality improvement even during lockdown is because of open burning, farm fires and cross

border wind blown dust.

The WHO guidelines for PM_{2.5} is 25 µg/m³ 24-hour mean whereas the National Ambient Air Quality Standard set by the government is 40µg/m³. During normal days, Kathmandu's air quality index fluctuates between 150 and 180 which is considered unhealthy.



Photo: Mangleswori Dhonju, CEN

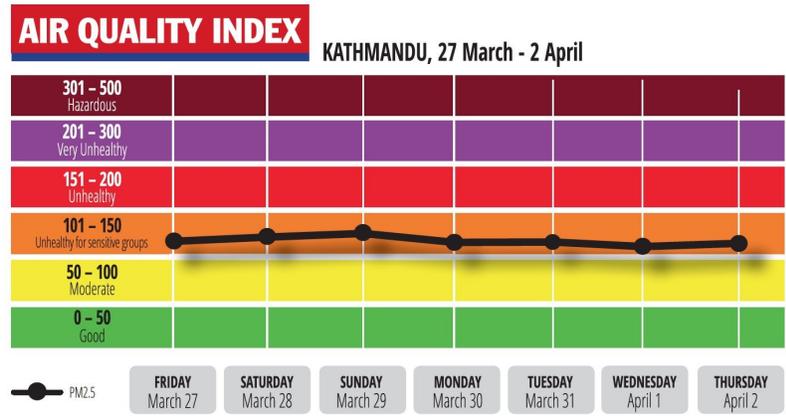
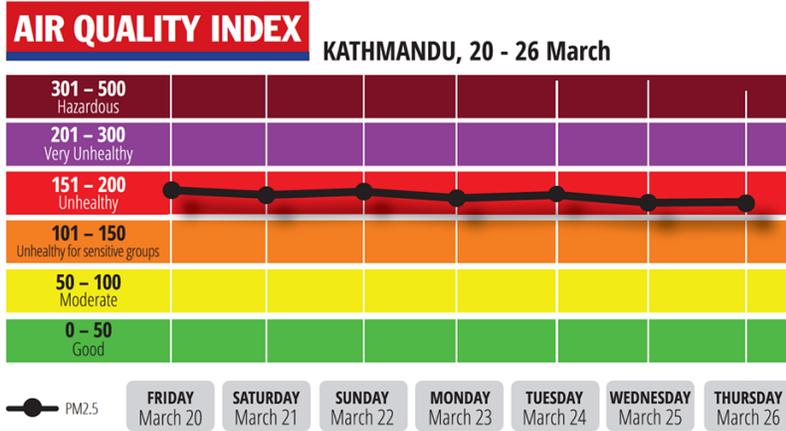
Garbage burning in Kathmandu

After the lockdown imposed by the government, there is improvement in the air quality of the valley with the ranging between 101-150. Though the pollution of the valley, according to the air quality index (see picture) has reduced by 1/3 during two week lockdown (from 20 March to 02 April). Though the pollution of the valley, according to the air quality index

Continued from page 1...

(see picture) has reduced by 1/3 during two week lockdown (from 20 March to 02 April), the air quality is still unhealthy for sensitive group.

After lockdown is lifted and vehicular movement is resumed, the pollution level will definitely go up again. Therefore, the stakeholders need to think about the innovative solutions to reduce air pollution. Promotion of electric vehicles, mass public transport, use of efficient fuel etc. could be some of them. We should also make use of the current time during lockdown to begin discourse on air pollution control.



Source: Nepal Times

NEA to Promote Use of Induction Stoves

To promote the use of electric induction stoves, Nepal Electricity Authority (NEA) is offering a discount of 20 per cent on electricity tariffs for consumers who use up to 150 units per month.

Minister for Energy, Water Resources and Irrigation, Barsha Man Pun, informed that NEA will provide this offer until the situation created by the coronavirus outbreak settles down. "The NEA board will take a formal decision on the discount in tomorrow's meeting,"

Pun stated, adding, this move has been introduced to promote the use of induction stoves amid the growing shortage of liquefied petroleum gas (LPG), commonly known as cooking gas. "This is the best time to promote the use of electric induction stoves among households and we will launch a massive campaign for the purpose," Minister Pun added.

As per the power utility, there are 2.65 million households that spend approximately Rs five billion per month on electricity bills.

Minister Pun further informed that a high-level meeting between the Ministry of Finance (MoF), Ministry of Industry, Commerce and Supplies (MoICS) and the Ministry of Energy, Water Resources and Irrigation, has decided to coordinate to provide induction stoves to customers. "The MoICS will import the induction stoves at reasonable rates and MoF will provide customs discount on those stoves," Pun said.

Source: thehimalayantimes.com, 26 March, 2020

Government Unveils Action Plan to Control Air Pollution

The government has issued Kathmandu Valley Air Quality Management Action Plan-2020 to ensure fundamental right of citizens to live in clean and healthy environment.

The action plan came into force after it was approved by the Council of Ministers on February 24. 'Kathmandu valley with clean and healthy air' is the vision of the action plan. It has set eight objectives to realise the vision.

They include reduction of outdoor pollution generated or emitted by transport and construction sectors, industrial enterprises and household waste; reduction of indoor pollution, awareness raising about the condition of air pollution, its cause, potential impact on public health, and mitigation and prevention measures; developing decision support system for air quality management; air pollution management in emergency situation; and ensuring financial resource for air pollution control by strengthening policy, legal and institutional frameworks.

Strategic features of the action plan include controlling vehicle emission, construction activities, indoor pollution, industrial emissions; management of household and agricultural waste in eco-friendly manner; ensuring environmentally sustainable transport system; awareness cam-



paign; developing air quality management decision support system; emergency management of air pollution and developing policy and legal frameworks and resource management for its effective implementation. As per the action plan, the government will implement Euro-IV standard, develop and enforce In-use Vehicle Emission Standard, introduce euro standard for heavy equipment and vehicles, enforce use of diesel particulate filters in diesel-powered vehicles and make provision of certification for auto workshops. These tasks will be performed within two years. The action plan envisions establishment and operation of at least five vehicle fitness testing centres and implementation of fuel economy standard.

According to the action plan, private sector will also be authorised to develop charging stations for electric

vehicles. Only zero-emission vehicles like e-vehicle, rickshaw and bicycle will be allowed inside tourism and cultural sites. The government will also make legal provisions to replace old vehicles with electric vehicles within two years.

“The government will ensure no adulterated fuel is sold or distributed, besides implementing the standard of bio-fuel. Arrangement of five mobile stations will be made for surprise vehicle emission testing within one year with the participation of private sector,” it reads.

Feasibility study of mass transit system and bus rapid transit will be carried out by allocating a lane for buses along the road sections with more than six lanes.

Source: thehimalayantimes.com, 6 March, 2020

Dust-free Kathmandu Campaign Challenged by Road Potholes



The Kathmandu Metropolitan City is facing an adverse condition to operate broomer machine in inner roads. Potholes in inner roads are yet to be mended and the situation has posed a challenge to operate broomer service smoothly for cleaning up road dust.

The Kathmandu Metropolitan City (KMC) office has been operating seven broomer machines for a year in a bid to realise the plan of dust-free Kathmandu. But its results are seen only on major roads.

The responsibility for the management of roads with eight meters width is of the KMC office. According to KMC En-

vironment Department chief Hari Kumar Shrestha, the campaign to making Kathmandu dust-free has been challenged as potholes in auxiliary roads remain as it is. However, the use of broomer in large roads continues.

Main roads generally do not feature potholes. Works of maintaining roads' beauty are going on. Though the present condition is not sufficient to be satisfied, the condition of Valley roads has improved.

The restoration of Valley roads is the priority of the government and in the past 100 days, 9,500 potholes were mended. However, the condition of

inner and auxiliary roads has not improved yet. The government aims to blacktop 85 kilometers of road in the Kathmandu Valley till the end of the current fiscal year.

KMC said the mending of small roads has not caught the attention of authorities concerned and it has been facing to clean those roads with the help of broomer machine. However, dust pollution in the major roads has been gradually vanishing.

Source: myrepublica.nagariknetwork.com, 3 March 2020

Government to Establish Robust Mechanism to Monitor Air

The government is set to establish monitoring and information dissemination mechanism on air quality of Kathmandu valley. As per the Kathmandu Valley Air Quality Management Action Plan-2020, Department of Environment will establish mercury and wet deposition monitoring system in the valley within two years.

Ministry of Forests and Environment, Ministry of Industry, Tourism, Forests and Environment of Bagmati Province and local levels will support the Department of Environment towards that end. Wet deposition is monitored to find pathway to pollutant removal from the atmosphere, giving further insights on chemical composition of precipitation.

Harmful and hazardous pollutants like benzene and polycyclic aromatic hydrocarbons will also be measured in the laboratory of the department and in private laboratories.

The government will ensure quality control and assurance of data received from air quality monitoring station. "The Department of Environment will place display boards in all provinces, including the valley to disseminate information on air quality to public. A campaign will be launched to monitor pollution in and around industries and construction sites, besides providing results of air quality measurement through social media," reads the action plan recently issued by the government.

The department, in association with media houses, will publish information on air quality in newspapers besides publishing annual report.

According to the action plan, emission inventory will be developed to analyse air quality and prepare remediation plans. The emission inventory will be used to track actual emission of each facility and to determine type and quantity of pollutants being emitted to the atmosphere. The data will then be used to calculate emission fee for each facility.

"Database of plants, boilers and industries will be developed within two years. The department will carry out activities related to emission field mapping, source apportionment and modelling, with the support of universities, research institutions and international organisations on yearly basis," it reads. The government will work in coordination with health facilities, especially teaching hospitals, to study impacts of air pollution on human health. The National Health Research Council has been assigned to establish a database of diseases caused by air pollution in the valley. The action plan requires the local levels to mobilise volunteers to implement the ban on open burning of refuse.

Local levels and Department of Roads will deploy broomer machines to make the valley roads dust free. It has also envisioned various mechanisms to make



pollutants provide compensation to the victims of pollution. Pollution tax would be enforced in accordance with the existing Financial Act. "Progressive tax will be charged on the renewal of vehicles being operated for more than 10 years.

The government will formulate a guideline for optimum utilisation of Environment Protection Fund as specified in the Environment Protection Act," it reads. The action plan stipulates a 14-member high-level coordination committee headed by minister of forests and environment to maintain coordination with its implementing and supporting agencies. There will be a 15-member action plan implementation committee led by a secretary at Ministry of Forests and Environment. World Health Organisation considers air unsafe when average exposure to fine particulate matter exceeds 10 per cubic metre ($\mu\text{g}/\text{m}^3$).

Source: thehimalayantimes.com, 15 March, 2020

Cleaner Concrete Production Could Cut Air Pollution by 14%

Using cleaner-burning kiln reduces the health costs of air pollution from concrete production by 14%, according to a new study published today (March 24) in Nature Climate Change.

Concrete production is responsible for 8% of global greenhouse gas emissions, and as populations continue to grow, demand for concrete continues to rise. The production of concrete is also a major contributor to local air pollution.

The dust produced from mixing the concrete and the trucks that ferry the materials between building sites are responsible for the high levels of pollution caused by concrete production.

Researchers from the University of California have quantified the cost of

air pollution from the production of concrete.

The researchers compared several strategies to reduce CO₂ emissions to determine which are the most likely to also lower air pollution. The researchers found that the most effective strategies to reduce pollution are using cleaner-burning kiln fuel, using more renewable energy and replacing a portion of the cement with a lower-carbon alternative.

Cleaner combustion shows the greatest co-benefits, with a 14% reduction in health costs.

The researchers have said while carbon capture and storage technologies could also reduce emissions by up to 28%,



this could actually increase air pollution unless the technology itself is powered by clean energy. Frances Moore, an assistant professor at the Department of Environmental Science and Policy said: 'Air pollution and climate change problems are really intertwined when we talk about solutions.'

Source: airqualitynews.com, 24 March, 2020

Good Reads

1. [Coronavirus shutdown gives Nepal's nature a respite](#), Mukesh Pokhrel, www.nepalitimes.com, 24 March, 2020
2. [New Evidence Shows How COVID-19 Has Affected Global Air Pollution](#), Jacinta Bowler, www.sciencealert.com, 17 March, 2020
3. [Coronavirus pandemic leading to huge drop in air pollution](#), Jonathan Watts & Niko Kommenda, www.theguardian.com, 23 March, 2020
4. [The World's Facing a Silent 'Pandemic' More Dangerous Than Most Viruses: Air Pollution](#), Carly Casella, www.sciencealert.com, 7 March, 2020

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Clean Air Network Nepal (CANN) is a network of organizations and professionals involved in air quality management in Nepal. The goal of CANN is to increase the ability of professionals and other interested stakeholders to effectively address the problems of air pollution in Nepal. We encourage you to join hands with us to expand our campaign for clean and better Air. CANN is a country network of Clean Air Asia and hosted by Clean Energy Nepal. For more information: www.cen.org.np; www.cleanairinitiative.org

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